

Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1-11. Cancelled

12 (Currently amended). A method of eliciting an immune response ~~treating~~ in a mammal comprising administering to the mammal an effective amount of a mutated herpesvirus in a pharmaceutically acceptable carrier, the herpesvirus having a mutation in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective, said mutant herpesvirus having an ability to effect an antibody subclass shift of IgG2a/IgG upon *in vivo* administration to said mammal.

13 (Original). The method of claim 12 wherein the herpesvirus is selected from the group consisting HSV-1, HSV-2, VZV, EBV, CMV, HHV-6 or HHV-7.

14 (Original). The method of claim 13 wherein the herpesvirus is HSV-1 or HSV-2.

15 (Original). The method of claim 14 wherein the mutation is in the gene or genes encoding the proteins ICP8 or ICP 27.

16 (Currently amended). A method of eliciting an immune response treating herpetic stromal keratitis in a mammal, the method comprising administering to the mammal an effective amount of a mutated herpesvirus in a pharmaceutically acceptable carrier, the herpesvirus having a mutation in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective, said mutant herpesvirus having an ability to effect an antibody subclass shift of IgG2a/IgG upon *in vivo* administration to said mammal.

17 (Currently amended). A method of treating a mammal comprising administering to the mammal an effective amount of a mutated herpesvirus in a pharmaceutically acceptable carrier, the herpesvirus having a mutation in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective, said mutant herpesvirus having an ability to effect an antibody subclass shift of IgG2a/IgG upon *in vivo* administration to said mammal.

18 (Currently amended). A method of eliciting an immune response treating herpetic stromal keratitis in a mammal, the method comprising administering to the mammal an effective amount of a mutated herpesvirus in a pharmaceutically acceptable carrier, the herpesvirus having a mutation in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective, said mutant herpesvirus having an ability to effect an antibody subclass shift of IgG2a/IgG upon *in vivo* administration to said mammal.

19 (Original). The method of claim 18 wherein the herpesvirus is selected from the group consisting of HSV-1, HSV-2, VZV, EBV, CMV, HHV-6 or HHV-7.

20 (Original). The method of claim 19 wherein the herpesvirus is HSV-1 or HSV-2.

21 (Original). The method of claim 20 wherein the mutation is in the gene or genes encoding the proteins ICP8 or ICP 27.

22-30. Cancelled

31 (Currently amended). A ~~vaccine~~ composition in a pharmaceutically accepted carrier comprising:

a mutated herpesvirus characterized by a mutation in at least one gene encoding a protein essential for viral genome replication of said herpesvirus, thereby,

rendering the virus genome replication defective; and,

the herpesvirus comprising one or more heterologous genes; wherein,

the mutated herpesvirus is capable of infecting a mammalian cell and of eliciting an immune response to heterologous gene products in a mammal ~~vaccinated~~ treated with the herpesvirus.

32-35. Cancelled

36 (Currently amended). A ~~vaccine~~ composition comprising a mutated herpesvirus capable of infecting a mammalian cell;

said herpesvirus comprising a mutation in one or more early genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective; and,

said herpesvirus comprising one or more heterologous genes encoding heterologous gene products; wherein,

the mutated herpesvirus is capable of infecting a mammalian cell and of eliciting an immune response to the heterologous gene products in a mammal ~~vaccinated~~ treated with said herpesvirus.

37-40. Cancelled

41 (Currently amended). A method of inducing an immune response against herpesvirus in a mammal comprising administering to said mammal a vaccine comprising a mutated herpesvirus in a pharmaceutically accepted carrier, said herpesvirus having a mutation in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus replication defective and further encoding one or more heterologous genes.

42-49. Cancelled

50 (Currently amended). An immunogenic composition comprising a pharmaceutically acceptable carrier and a mutated herpesvirus capable of infecting a mammalian cell and of eliciting an immune response in a mammal immunized with the composition, wherein the herpesvirus includes ~~a mutation~~ two or more mutations in a ~~gene~~ one or more genes encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or HSV-1, UL5~~; or in a corresponding early gene in a non-HSV-1 herpesvirus, and the mutation renders the herpesvirus incapable of replication.

51 (Previously presented). The immunogenic composition of claim 50, wherein the herpesvirus is selected from the group consisting of HSV-1, HSV-2, VZV, EBV, HHV-6 and HHV-7.

52 (Previously presented). The immunogenic composition of claim 51, wherein the herpesvirus is HSV-1 or HSV-2.

53 (Currently amended). The immunogenic composition of claim 51, wherein the gene encoding ICP27 comprises a first ~~nonsense~~ mutation and the gene encoding ICP8 comprises a second ~~deletion~~ mutation, wherein either mutation or the combination of the mutations renders the herpesvirus incapable of replication.

54 (Currently amended). The immunogenic composition of claim 51, wherein the gene encoding ICP27 comprises a first ~~nonsense~~ mutation ~~and the gene encoding UL5 comprises a deletion mutation, wherein either mutation or the combination of the mutations renders the herpesvirus incapable of replication.~~

55 (Currently amended). The immunogenic composition of claim 51, wherein ~~the gene encoding UL5 comprises a deletion mutation and the gene encoding~~

ICP8 comprises a first deletion mutation, ~~wherein either mutation or the combination of the mutations renders the herpesvirus incapable of replication.~~

56 (Previously presented). The immunogenic composition of claim 55, wherein the herpesvirus is HSV-1 or HSV-2.

57 (Currently amended). A method of eliciting an immune response in a mammal, the method comprising administering to the mammal an immunogenic composition comprising a mutated herpesvirus capable of infecting a mammalian cell and eliciting an immune response, wherein the herpesvirus includes ~~a mutation~~ two or more mutations in a gene one or more genes encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or~~ HSV-1, UL5; or in a corresponding early gene in a non-HSV-1 herpesvirus, and the mutations render the herpesvirus incapable of replication.

58 (Previously presented). The method of claim 57, wherein said herpesvirus is selected from the group consisting of HSV-1, HSV-2, VZV, EBV, HHV-6 and HHV-7.

59 (Previously presented). The method of claim 57, wherein said herpesvirus is HSV-1 or HSV-2.

60 (Currently amended). The method of claim 57, wherein the gene encoding ICP27 comprises a first nonsense mutation and the gene encoding ICP8 comprises a second deletion mutation, wherein either mutation or the combination of the mutations renders the herpesvirus incapable of replication.

61 (Currently amended). The method of claim 57, wherein the gene encoding ICP27 comprises a first nonsense mutation ~~and the gene encoding UL5 comprises deletion mutation, wherein either mutation or the combination of the mutations renders the herpesvirus incapable of replication.~~

62 (Currently amended). The method of claim 57, wherein the gene encoding ~~UL5 comprises a deletion mutation and the gene encoding~~ ICP8 comprises a first deletion mutation, ~~wherein either mutation or the combination of the mutations renders the~~ herpesvirus incapable of replication.

63 (Currently amended). A method of treating a mammal to elicit an immunogenic response, the method comprising administering to the mammal an effective amount of an immunogenic composition comprising a mutated herpesvirus in a pharmaceutically acceptable carrier, wherein the herpesvirus includes ~~a mutation~~ two or more mutations in ~~a gene~~ one or more genes encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or HSV-1, UL5~~; or in a corresponding early gene in a non-HSV-1 herpesvirus, thereby, the mutations render the herpesvirus incapable of replication, and the mutant herpesvirus induces an immunogenic effect upon *in vivo* administration to the mammal.

64. Cancelled.

65 (Currently amended). The immunogenic composition of claim ~~50~~ 63 ~~further comprising a mutation in at least two of the genes~~, wherein one mutation is a deletion mutation and the other mutation is a nonsense mutation.

66. Cancelled.

67 (Previously presented). The method according to claim 63, wherein the herpesvirus contains a mutation in at least two of the genes, wherein one mutation is a deletion mutation and the other mutation is a nonsense mutation.

68 (Currently amended). An immunogenic composition comprising a pharmaceutically acceptable carrier and a replication defective herpesvirus which expresses a heterologous protein, wherein said herpesvirus is characterized by a mutation in at least one gene encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or HSV-1, UL5~~ or in a

corresponding early gene in a non-HSV-1 herpesvirus, and the mutation renders the herpesvirus incapable of replication.

69 (Previously presented). The immunogenic composition of claim 68, wherein the herpesvirus is HSV-1, HSV-2, VZV, EBV, HHV-6 or HHV-7.

70. Cancelled.

71 (Currently amended). The immunogenic composition of claim ~~68~~ 70, wherein the gene ~~protein~~ is HSV-1 ICP-27.

72 (Currently amended). The immunogenic composition of claim ~~68~~ 70, wherein said gene ~~protein~~ is HSV-1 or HSV-2 ICP-8.

73 (Currently amended). The immunogenic composition of claim 68, wherein said herpesvirus is characterized by a mutation in two or more genes encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or HSV-1, UL5~~ or in a corresponding early gene in a non-HSV-1 herpesvirus, and the mutation renders the herpesvirus incapable of replication.

74. Cancelled.

75 (Previously presented). The immunogenic composition of claim 73, wherein said genes encode ICP8 and ICP 27.

76 (Currently amended). The immunogenic composition of claim ~~68~~ ~~[[6]]~~, wherein the gene encoding ICP27 comprises a first ~~nonsense~~ mutation and the gene encoding ICP8 comprises a second ~~deletion~~ mutation, thereby, the herpesvirus expressing the heterologous protein is rendered incapable of replication.

77 (Currently amended). The immunogenic composition of claim 73, wherein the gene encoding ICP27 comprises a first ~~nonsense~~ mutation ~~and the gene encoding UL5 comprises a deletion mutation~~, thereby, the herpesvirus expressing the heterologous protein is rendered incapable of replication.

78 (Currently amended). The immunogenic composition of claim 73, wherein ~~the gene encoding UL5 comprises a deletion mutation and the gene encoding~~ ICP8 comprises a first ~~deletion~~ mutation, thereby, the herpesvirus expressing the heterologous protein is rendered incapable of replication.

79 (Previously presented). The immunogenic composition of claim 73, wherein the herpesvirus expressing the heterologous protein is HSV-1 or HSV-2.

80 (Previously presented). The immunogenic composition of claim 79, wherein the heterologous protein is an immunogenic protein from a virus, bacteria, fungi or parasite.

81 (Previously presented). The immunogenic composition of claim 80, wherein the immunogenic protein is from an RNA or DNA virus.

82 (Previously presented). The immunogenic composition of claim 81, wherein the immunogenic protein is from a Human Immunodeficiency Virus (HIV).

83 (Previously presented). The immunogenic composition of claim 82, wherein the immunogenic protein elicits a B- and/or T-cell immune response.

84 (Currently amended). A method of eliciting an immune response in a mammal, the method comprising administering to the mammal an immunogenic composition comprising a mutated herpesvirus, expressing a heterologous protein and is capable of infecting a mammalian cell and eliciting an immune response, wherein the herpesvirus includes a mutation in a gene encoding HSV-1, ICP27; or HSV-1, ICP8; ~~or~~

~~HSV-1, UL5~~; or in a corresponding early gene in a non-HSV-1 herpesvirus, and the mutated herpesvirus is rendered incapable of replication.

85 (Previously presented). The method of claim 84, wherein the herpesvirus expressing the heterologous protein is selected from the group consisting of HSV-1, HSV-2, VZV, EBV, HHV-6 and HHV-7.

86 (Previously presented). The method of claim 84, wherein the herpesvirus expressing the heterologous protein is HSV-1 or HSV-2.

87 (Currently amended). The method of claim 84, wherein the gene encoding ICP27 comprises a first ~~nonsense~~ mutation and the gene encoding ICP8 comprises a second ~~deletion~~ mutation, thereby, the herpesvirus expressing the heterologous protein is rendered incapable of replication.

88 (Previously presented). The immunogenic composition of claim 84, wherein the heterologous protein is an immunogenic protein from a virus, bacteria, fungi or parasite.

89 (Previously presented). The immunogenic composition of claim 84, further comprising a mutation in at least two of the genes.

90 (Previously presented). The immunogenic composition of claim 84, further comprising a mutation in at least two of the genes, wherein one mutation is a deletion mutation and the other mutation is a nonsense mutation.

91 (Currently amended). A method of treating a mammal to elicit an immunogenic response, the method comprising administering to the mammal an effective amount of an immunogenic composition comprising a mutated herpesvirus expressing a heterologous protein in a pharmaceutically acceptable carrier, wherein the herpesvirus

includes a mutation in a gene encoding HSV-1, ICP27; or HSV-1, ICP8; or HSV-1, UL5;
or in a corresponding early gene in a non-HSV-1 herpesvirus, thereby, the mutated
herpesvirus is rendered incapable of replication, and the mutant herpesvirus induces an
immunogenic effect upon *in vivo* administration to the mammal.

92 (Previously presented). The method according to claim 91, wherein the
herpesvirus contains a mutation in at least two of the genes and expresses a heterologous
protein.

93 (Previously presented). The method according to claim 91, wherein the
herpesvirus contains a mutation in at least two of the genes, wherein one mutation is a
deletion mutation and the other mutation is a nonsense mutation.

94 (Currently amended). The method according to claim 91, wherein the
herpesvirus contains ~~a mutation in~~ at least two mutations in of the genes.

95 (Currently amended). The method according to claim 94, ~~91, wherein the~~
~~herpesvirus contains a mutation in at least two of the genes~~, wherein one mutation is a
deletion mutation and the other mutation is a nonsense mutation.

96 ~~95~~ (Currently amended). The method of claim 91, wherein the heterologous
protein is an immunogenic protein from a virus, bacteria, fungi or parasite.

97 ~~96~~ (Currently amended). The method according to claim 91, wherein the *in*
vivo immunogenic effect in a mammal comprises a B- cell and/or T cell response.

Please add the following new claims.

98 (New). An immunogenic composition comprising a pharmaceutically
acceptable carrier and a mutated herpesvirus capable of infecting a mammalian cell and
of eliciting an immune response in a mammal immunized with the composition, wherein

the herpesvirus includes two or more mutations in one or more genes encoding a protein essential for viral genome replication to render the herpesvirus incapable of replication.

99 (New). The immunogenic composition of claim 98, wherein the herpesvirus is selected from the group consisting of HSV-1, HSV-2, VZV, EBV, HHV-6 and HHV-7.

100 (New). The immunogenic composition of claim 98, wherein the herpesvirus is HSV-1 or HSV-2.

101 (New). The immunogenic composition of claim 99, wherein a gene encoding ICP27 comprises a nonsense mutation and a gene encoding ICP8 comprises a deletion mutation.

102 (New). The immunogenic composition of claim 99, wherein a gene encoding ICP27 comprises a nonsense mutation.

103 (New). The immunogenic composition of claim 99, wherein a gene encoding ICP8 comprises a deletion mutation.

104 (New). The immunogenic composition of claim 98, wherein one mutation is a nonsense mutation and another mutation is a deletion mutation.